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Basic Imagery Interpretation Report

NATIONAL PHOTOGRAPHIC INTERPRETATION CENTER

25X1

IZHEVSK ROCKET ENGINE AND COMPONENTS TEST FACILITY

25X1A

STRATEGIC WEAPONS INDUSTRIAL FACILITIES
USSR
DECEMBER 1968

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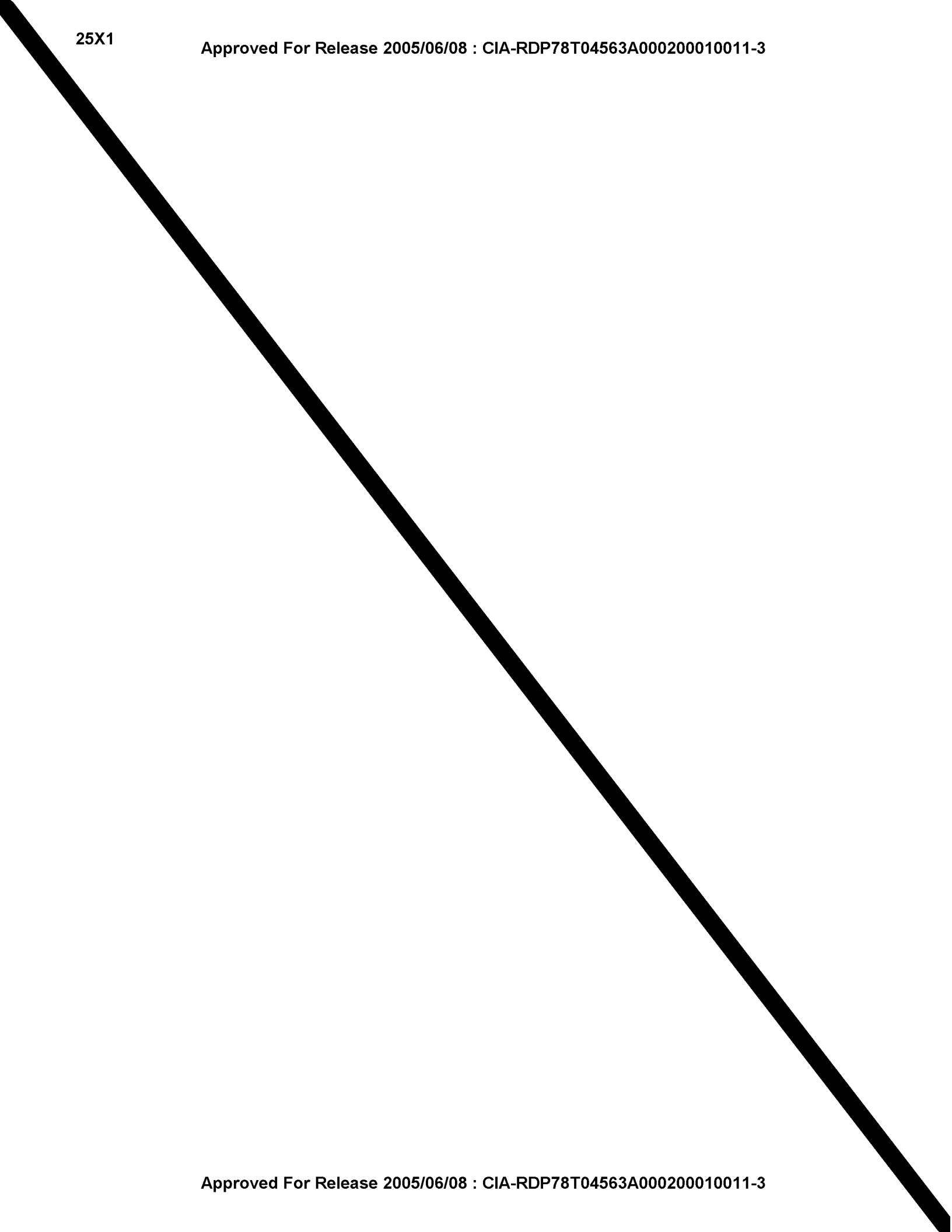

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INSTALLATION OR ACTIVITY NAME		COUNTRY
Izhevsk Rocket Engine and Components Test Facility		UR
UTM COORDINATES	GEOGRAPHIC COORDINATES	
NA	56-56-00N 053-24-00E	
MAP REFERENCE		
ACIC, USATC, Sheet M0155-20HL, 3d ed, Apr 66, Scale 1:200,000 (SECRET)		

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ABSTRACT

The Izhevsk Rocket Engine and Components Test Facility is located near two Soviet arms and machine plants and may be functionally related to them. The secured, rail- and road-served facility contains 44 structures and two buildings under construction. The principal structures are a horizontal test building which probably contains four test positions, a small horizontal test cell, a probable propellant handling facility, and a probable air liquefaction plant. More than half the facility appeared to be complete when first observed [redacted] The facility probably tests rocket engines or other missile components from either or both the missile-associated plants at Izhevsk and at Votkinsk.

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SUMMARY AND CONCLUSIONS

The Izhevsk Rocket Engine and Components Test Facility was previously thought to be similar to other Soviet small horizontal rocket engine or component test facilities of the Ufa type, characterized by horizontal test buildings which probably contain four test positions. Although the Izhevsk test facility also probably contains four test positions, the facilities in which the test positions are located are not comparable to facilities of the Ufa type. It is likely that the Izhevsk facility is engaged in a testing program which resembles that utilizing the horizontal test buildings at the Voronezh Rocket Engine Test Facility rather than in a program which would use such test facilities as those at Ufa, Nizhnyaya Salda, Faustovo, or Zelenegorsk. Although no firm evidence of testing activity has been observed, it is probable that the Izhevsk facility tests rocket engines and other missile components.

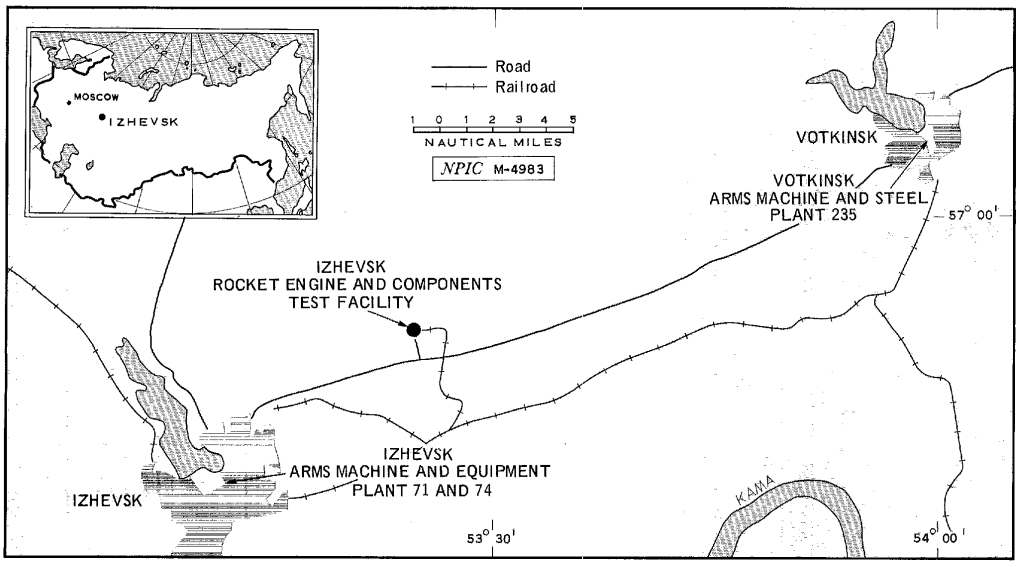


FIGURE 1. LOCATION MAP.

INTRODUCTION

The Izhevsk Rocket Engine and Components Test Facility (Figure 1) is located east of the Ural Mountains in gently rolling terrain near Izhevsk at 56-56-00N 053-24-00E. The test facility is 9 nautical miles (nm) northeast of Izhevsk Arms Machine and Equipment Plants 71 and 74 and 20 nm west-southwest of Votinsk Arms Machine and Steel Plant 235 Both these plants have been linked to Soviet missile production and may test rocket engines and other missile components at the Izhevsk Rocket Engine and Components Test Facility.

The facility is served by a spur from the Izhevsk-Votkinsk rail line. Road service is provided by an all-weather road which branches from the main highway between Izhevsk and Votkinsk. Water for the facility is apparently pumped from wells and stored in a tank Fuel oil for the steam plant is brought in by rail and stored in three buried tanks east of the steam plant. No back-up fuel source is discernible. Electric service is provided through a large substation at the east end of the test facility.

BASIC DESCRIPTION

Physical Features

The secured part of the facility (Figure 2 and Table 1) contains 31 buildings, two buildings under construction, one cooling tower, a possible addition to a blast deflector under construction, two semiburied tanks, three buried tanks, a large substation, and a water tower An administration building, two barracks, and nine support buildings are located outside the secured area.

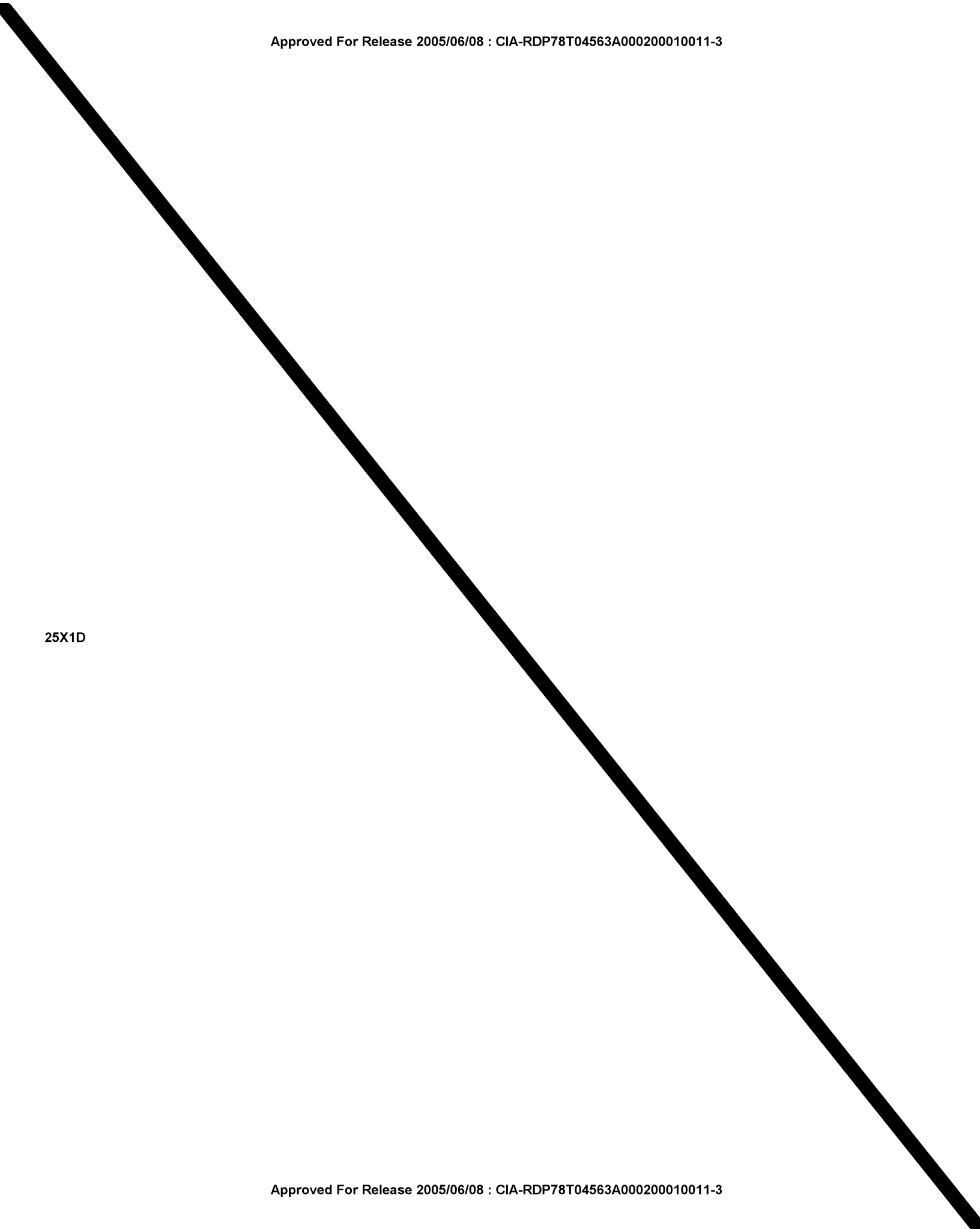
Horizontal Test Building

The horizontal test building (Item 15) probably contains four test positions. It appears that the building originally had two test positions and two more are being added in the center of the building. The two probable center test positions located under a

Table 1. Izhevsk Rocket Engine and Components Test Facility, USSR
(Item numbers keyed to Figure 2)

Item	Description	Comments
1	Prob control & switching house	Water tower to SW was complete
2	Steam plant	Smoke observed from indicates that facility was active; 3 buried fuel tanks were evident to E
3	U/I bldg	
4	Prob propellant handling facility	Prob pumphouses
5	Shop	
6	Maintenance bldg	
7	Admin bldg	
8	Fabrication & assembly bldg	
9	Prob admin or support bldg	
10	Test support bldg	
11	Prob lab & engineering bldg	
12	Security & gatehouse	
13	Prob barracks bldg	
14	Prob barracks bldg	
15	Horizontal test bldg	
16	Test support bldg	
17	Prob air liquefaction plant	
18	Horizontal test cell	Poss complete
19	Prob pumphouse	One associated semiburied tank
	33 small support structures totaling	
	Total	

*Lengths and widths overall.
**All items apparently complete when first observed unless otherwise noted.



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probable temporary shelter and the test position on the southeast end of the building all appear to be designed to fire below grade into a blast deflector which is recessed into a slight incline. A possible addition is under construction across the top of the blast deflector opposite the two center probable firing positions. The test position at the northwest end of the building has no blast deflector and probably fires out over a concrete pad.

This building is similar to horizontal test buildings in the Ufa Static Test Facility, the Nizhnyaya Salda Static Test Facility, the Faustovo Rocket Engine Test Facility, and the Zelenegorsk Static Test Facility. 1/ It differs principally in two respects: the external configuration of the test building, and the blast deflector system. The deflector system consists of a separate blast deflector for one test position, a pit and deflector wall for two of the test positions, and the fourth test position with no apparent deflector. In these respects it is more like the horizontal test building at Voronezh Rocket Engine Test Facility, USSR. 2/

Horizontal Test Cell

The horizontal test cell (Item 18) in the northern part of the facility is probably used for testing small engines and/or components; however, either solid or liquid rocket motors could be tested in a cell of this type.

Probable Propellant Handling Facility

The probable propellant handling facility (Item 4) has three probable pumping stations adjacent to the rail spur which serves the building. This facility may handle the oxidizer, as well as the fuel used in engine testing.

Probable Air Liquefaction Plant

The small probable air liquefaction plant (Item 17) probably produces the nitrogen which may be used to purge the rocket engines and systems of unwanted gasses prior to testing. The plant also may be used to provide nitrogen for an inert "blanket" in tankage.

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The Izhevsk Rocket Engine and Components Test Facility was first observed on KH-4 photography of poor interpretability [redacted] Eight buildings were present, including the horizontal test building, the probable laboratory and engineering building, the probable propellant handling facility, the steam plant, the probable control and switching house in the substation, the security and gatehouse, and two support buildings.

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The total roof cover of the facility when first observed [redacted]

KH-4 photography of poor interpretability showed the addition of an administration building, two probable barracks buildings, a probable pumphouse, two test support build-

ings, one bay of the fabrication and assembly building, a cooling tower, and a semiburied tank. A temporary camp containing seven small buildings was evident at the south corner of the facility; the buildings were later removed. The roof cover of the facility had increased

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A water tower was observed on KH-4 photography of fair interpretability, and confirmation of the presence of buildings previously considered present could be made.

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The first KH-4 photography of good interpretability revealed seven additional buildings, some of which may have been present earlier but were not discernible. The buildings included the small horizontal test cell, the probable air liquefaction plant, a tower of a type frequently seen in connection with administration buildings in Soviet facilities, and four support buildings. A semiburied tank and three buried tanks were also evident. Roof cover observed

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Two additional buildings were seen.

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KH-4 photography of fair interpretability showed the addition of a probable temporary roof covering the center portion of the front of the horizontal test building. Two small support buildings were apparent.

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One additional building was observed on photography of poor interpretability.

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Security

The physical security of the 10.8-acre facility consists of triple wire fences on three sides and a fence and wall on the other two sides, as well as perimeter lighting.

REFERENCES

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REFERENCES (Continued)

[redacted]

MAPS OR CHARTS

ACIC. US Air Target Chart, Sheet M0155-20HL, 3d ed, Apr 66, Scale 1:200,000 (SECRET [redacted]

DOCUMENTS

1. NPIC. [redacted] Chronology of Ufa Static Test Facility, USSR, Mar 68 (TOP SECRET [redacted] CODEWORD-[redacted]
2. NPIC. [redacted] Comparison of Large Liquid Propellant Rocket Engine Test Facilities in the USSR, Feb 67 (TOP SECRET [redacted]

REQUIREMENT

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